

### Remarks

Claims 1, 4, and 8-20 remain in the present application. Claims 6 and 7 have been canceled. Claims 21-22 have been added. The amendments are supported by the application as originally filed, and no new matter has been introduced by those amendments.

In the office action mailed April 8, 2009 ("Office Action"), claims 6 and 7 were objected to under 37 C.F.R. §.175(c) because they did not refer back to and further limit another claim. Claims 4, 6, 7, 13-17 and 20 were objected to under 35 C.F.R. § 1.75(a) because the Examiner felt that some of the limitations in those claims were confusing. Additionally, claims 14 and 17 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Further objections were also presented to figures 4a-4d, figures 6a-6b, and figures 8a-8b. There were also objections made to various portions of the specification.

In response, claims 1, 4, 13 - 17 and 20, as well as the figures and the portions of the specification objected to in the Office Action have been amended. Claims 6 and 7 have been canceled and re-presented as claims 21 and 22. Accordingly, the applicants submit that the present application is in condition for allowance. A discussion of the current amendments, and how they address the objections raised in the Office Action are set forth below.

### Objections to the Drawings

The Office Action objected to figures 4a-4d because those figures were not individually labeled in the drawings filed on January 29, 2009, and instead were identified collectively as "Fig. 4". In response, the applicants have filed a replacement sheet which removes the collective identification "Fig. 4" and instead individually labels figures 4a-4d. As a result, the applicants request that the objection to figures 4a-4d be withdrawn.

The Office Action objected to figures 6a-6b because those figures were not individually labeled in the drawings filed on January 29, 2009, and instead were identified collectively as "Fig. 6". In response, the applicants have filed a replacement sheet which removes the collective identification "Fig. 6" and instead

individually labels figures 6a-6b. As a result, the applicants request that the objection to figures 6a-6b be withdrawn.

The Office Action objected to figures 8a-8b because those figures were not individually labeled in the drawings filed on January 29, 2009, and instead were identified collectively as “Fig. 8”. In response, the applicants have filed a replacement sheet which removes the collective identification “Fig. 8” and instead individually labels figures 8a-8b. As a result, the applicants request that the objection to figures 8a-8b be withdrawn.

The Office Action stated that, in a number of the replacement drawings, the axes labeling and legends have some fading, and requested appropriate correction. In response, the applicants note that the only replacement drawings which were submitted were those on the same sheets as figures 4a-4d, 6a-6b, and 8a-8b, discussed previously. On the replacement sheets filed herewith, the applicants have filed new versions of all replacement drawings without fading. Accordingly, the applicants request that the remaining objections to the figures be withdrawn.

The Office Action also requested that appropriate corrections be made to the “Description of the Drawings” section of the specification. The applicants have amended the “Description of the Drawings” section to refer to figures 4a-4d, 6a-6b, and 8a-8b individually, rather than using the collective identifiers Fig. 4, Fig. 6, and Fig. 8.

#### Objections to the Specification

The Office Action objected to the amendment to the specification filed on January 29, 2009 which began “On page 5,...should be deleted as noted:” because the amendment contained a strikethrough of the text, while deletion of a paragraph should only include an instruction to delete, and the location of the paragraph or section. In response, the applicants have requested that the paragraph set forth on page 5 of the application as originally filed starting with the words “Embodiments of the invention” and ending with the words “drawings, in which:” be deleted. As 37 C.F.R. 1.121(b)(1)(iv) states that “[t]he instruction to delete may identify a paragraph by its paragraph number or include a few words from the beginning, and end, of the paragraph, if needed for paragraph identification purposes” the applicants submit that

the current request fully complies with the requirements of the rules, and that the first objection to the specification should be withdrawn.

The Office Action objected to the replacement paragraph filed on January 29, 2009 which starts as “Fig. 7 shows the auto-correlation function” because a portion of that paragraph was allegedly omitted from the amendment. In response, the applicants note that the replacement paragraph filed on January 29, 2009 was actually a replacement for several paragraphs from page 5 of the application, and that the paragraph which begins “Fig. 7 shows the auto-correlation function” was not modified in that amendment. The allegedly omitted text should have been set forth in the following paragraph, which began “Fig. 8 shows.” As the paragraph which began “Fig. 8 shows” has been replaced to reflect the identification of figures 8a and 8b individually, rather than with the collective “Fig. 8”, the applicants submit that all allegedly omitted text is included in the current amendments. Accordingly, the applicants request that the second objection to the specification be withdrawn.

The Office Action objected to the amendment to line 10 of page 21 filed on January 29, 2009 because the entire replacement paragraph was not presented. In response, the applicants have set forth the entire text of a replacement paragraph to replace the paragraph set forth at lines 6-19 of page 21 of the application as originally filed. Accordingly, the applicants request that the third objection to the specification be withdrawn.

The Office Action objected to the amendment to line 25 of page 21 filed on January 29, 2009 because the entire replacement paragraph was not presented. In response, the applicants have set forth the entire text of a replacement paragraph to replace the paragraph set forth at lines 25-26 of the application as originally filed. Accordingly, the applicants request that the fourth objection to the specification be withdrawn.

The Office Action objected to the amendment filed on January 29, 2009 which began “Lines 8 through 18 should be amended to read” because it allegedly did not cite the page number and the paragraphs that were being replaced were not on lines 8-18, but were on lines 15-25 of the specification. In response, the applicants note that changes in the replacement text indicated as being on lines 8-18 were amendments to the “Description of the Drawings” section of the specification made to individually

identify figures 4a-4d, 6a-6b, and 8a-8b. As set forth above, the applicants have submitted new replacement paragraphs individually identifying figures 4a-4d, 6a-6b, and 8a-8b. No changes are made to the remaining paragraphs identified as being set forth on lines 8-18, either relative to the Previous Amendment, or relative to the original application. Accordingly, the applicants request that the fifth objection to the specification be withdrawn.

The Office Action objected to the amendment to the abstract filed on January 29, 2009 because it was not set forth on a separate sheet. While the applicants do not believe that an amendment by submitting a replacement section is required to be on a separate sheet (*see* 37 C.F.R. 1.121(b)(2)), in order to reach an agreement with the examiner, a replacement abstract on a separate sheet has been provided herewith. Accordingly, the applicants request that the sixth objection to the specification be withdrawn.

The Office Action objected to the specification because there is no statement of continuing data on the first page of the specification. In response, the specification has been amended to indicate that the current applications claims priority from PC/EP2003/007282. Accordingly, the applicants request that the seventh objection to the specification be withdrawn.

The Office Action objected to the amendment to line 10 of page 21 filed on January 29, 2009 on the ground that that amendment allegedly introduced new matter. While the applicants do not agree that that amendment introduced new matter, in order to facilitate an agreement with the Examiner, the applicants have submitted an amendment returning paragraph set forth on lines 6-19 of the specification as originally filed to the form it had on the date of filing. Accordingly, the applicants request that the eighth objection to the specification be withdrawn.

#### Objections to the Claims

The Office Action objected to claims 6 and 7 under 37 C.F.R. § 1.75(c) because they did not refer back to and further limit another claim. In response, claims 6 and 7, both of which depended from claim 20, have been canceled and re-presented as claims 21 and 22. Given that claims 21 and 22 are identical to claims 6 and 7, and that claims 21 and 22 both refer back to and limit another claim (claim 20) the

applicants request that the objection to claims 6 and 7 under 37 C.F.R. § 1.75(c) be withdrawn.

The Office Action objected to claims 4, 6, 13-17 and 20 under 37 C.F.R. § 1.75(a) on the ground that some of the limitations in those claims could allegedly result in confusion. The following remarks address how the current claims overcome those objections.

#### *Claim 4*

The Office Action objected to claim 4 because it appeared that a multiplication sign was missing between the variables in the recited formulas. In response, the applicants have corrected the formulas. Accordingly, the applicants request that the objection to claim 4 be withdrawn.

#### *Claims 6 and 7*

While the Office Action listed claims 6 and 7 with the claims that were objected to under 37 C.F.R. § 1.75(a), it did not identify any limitations in those claims as having the potential to cause confusion. Under MPEP 2173.02 if “the examiner merely wants the applicant to improve the clarity or precision of the language used... the examiner should suggest improved language to the applicant.” As no modifications to the language of claims 6 or 7 were suggested, the applicants assume that the reference to claims 6 and 7 as among the claims objected to under 37 C.F.R. 1.75(a) was a mistake. Accordingly, the applicants request that the objection to claims 6 and 7 (now claims 21 and 22) under 37 C.F.R. 1.75(a) be withdrawn.

#### *Claim 13*

The Office Action objected to claim 13 because it appeared that the phrase “velocity-compensated” should have read at least “velocity-compensated correlation function (R)”. The Office Action also objected to claim 13 because the “time difference” was accompanied by the symbol “(r)”, which had previously been used for wheel radius. The Office Action also objected to claim 13 because it was assertedly not clear what the time difference referred to. In response, the applicants have amended claim 13 to add the words “correlation function (R) in which a velocity dependency is compensated” after the words “velocity-compensated”. The applicants have also removed the reference to the “time difference” and stated that the

“correlation function ( $R$ ) is a function of a wheel radius ( $r$ ), and the correlation feature is the specific wheel radius ( $\hat{r}$ ) which corresponds to the maximum of said correlation function ( $R$ )”. Accordingly, the applicants request that the objections to claim 13 be withdrawn.

#### *Claim 14*

The Office Action objected to claim 14 because the “same type of problem” identified for claim 13 assertedly existed in claim 14 as well. Additionally, the Office Action objected to claim 14 because it was assertedly not clear whether the “correlation function ( $R$ )” was the same correlation function cited previously in the claim. In response, the applicants have amended claim 14 in a manner similar to the amendments to claim 13. Accordingly, the applicants request that the objections to claim 14 be withdrawn.

#### *Claim 15*

The Office Action objected to claim 15 because the recitation of “wheel radii” assertedly lacked clear antecedent basis. In response, the applicants have amended claim 15 to clarify that the wheel radii are for the front and rear wheels in the at least one pair of wheels from claim 1 (from which claim 15 depends indirectly through claim 9). Accordingly, the applicants request that the objections to claim 15 be withdrawn.

#### *Claims 16 and 17*

The Office Action objected to claims 16 and 17 because, like claim 14, they assertedly had the “same type of problem” identified for claim 13. With respect to the objections based on supposed lack of clarity in the “correlation function ( $R$ )”, all references to the “correlation function ( $R$ )” have been removed from claim 16. Similarly, claim 17 has been amended so that all but one reference to the “correlation function ( $R$ )” has been removed. Similarly, the “time difference ( $t$ )” in claims 16 and 17 have been removed. As a result, the applicants request that the objections to claims 16 and 17 be withdrawn.

### *Claim 20*

The Office Action objected to claim 20 on the ground that the “same type of problem” identified for claim 13 existed in claim 20 as well. Additionally, the Office Action objected to claim 20 for reciting “at lease one pair of wheels” rather than “at least one pair of wheels.” Additionally, the Office Action objected to claim 20 for reciting “front and rear wheel signals” rather than “front and rear wheel speed signals.” The Office Action also objected to claim 20 because it appeared that different variables were used to represent time delay. In response, the applicants have amended claim 20 to recite “at least one pair of wheels” rather than “at lease one pair of wheels,” and to recite “front and rear wheel speed signals” rather than “front and rear wheel signals.” Claim 20 has also been amended so that the variable  $\tau$  is used for time delay. Claim 20 has also been amended to remove assertedly confusing references to the “correlation function (R)”. Accordingly, the applicants request that the objections to claim 20 be withdrawn.

### *Rejections of the Claims*

The Office Action rejected claims 14 and 17 as directed to non-statutory subject matter, because the term “machine-readable medium” in the specification as originally filed included signals, which are not one of the four classes of statutory subject matter. In response, the applicants have amended claims 14 and 17 so that they are now directed to computer program products “embodied on a tangible machine readable medium.” The applicants note that, under the relevant Federal Circuit precedent, such claims are drawn to manufactures, which are one of the four classes of statutory subject matter. *In re Nuijten*, 500 F.3d 1346, 1356 (Fed. Cir. 2007) (“These definitions address “articles” of “manufacture” as being tangible articles or commodities.”). As a result, the applicants request that the rejections of claims 14 and 17 be reconsidered and withdrawn.

### Other Amendments

In addition to the amendments noted above, the applicants have made certain other amendments to the claims. For example, in all claims, the applicants have replaced the English letter (w) representing wheel speed signals with the Greek letter  $\omega$ . Additionally, while no objections were made to claim 1, that claim has been

amended in a manner similar to claim 14, as the applicants noted that certain issues objected to for claim 14 were also present in claim 1. These changes are not intended to modify the substantive scope of the claims, and should not be treated as doing so.

#### No New Matter

The applicants submit that no new matter has been introduced by any of the amendments set forth herein.

With respect to the amendments to the drawings, the specification and the abstract, those amendments are made in response to formal objections in the Office Action, and are not substantive changes from the application as originally filed. As a result, no new matter is introduced by those amendments.

With respect to the amendments to the claims indicated as allowable, those amendments are supported by at least equations (6) and (7) and the section entitled "Frequency Domain Analysis" from pages 12 and 14 of the application as originally filed. As a result, no new matter is introduced by those amendments.

With respect to the amendments to claims 14 and 17, the amendments in the bodies of those claims parallel the amendments made to the allowed claims, and therefore the discussion of why the amendments to the allowed claims do not introduce new matter applies to the amendments to the bodies of claims 14 and 17 as well. With respect to the amendments to the preambles specifying that the computer program products are embodied in tangible machine readable media, those amendments are supported by at least the disclosure of tangible machine readable media (e.g., solid state memories) from lines 8-10 of page 21 of the application as originally filed. The applicants note that, even assuming the Examiner's requirement that the phrase "carrier wave signals" be re-inserted into the definition of "machine readable medium" was correct, limiting the computer program product claims to only tangible machine readable media does not import new matter into the application. In the event new matter were added by limiting claims 14 and 17 to products embodied in tangible machine readable media, the correct way to proceed would be to reject those claims for violating the written description requirement of 35 U.S.C. § 112.<sup>4</sup> However, it is improper to reject a claim as violating the written description requirement if the specification conveys that the applicants had possession of the

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<sup>4</sup> MPEP 2163.06 ("If new matter is added to the claims, the examiner should reject the claims under 35 U.S.C. 112, first paragraph - written description requirement.").



claimed invention as of the filing date of the application.<sup>5</sup> In this case, it is clear that the applicants had possession of a computer program product embodied on a tangible machine readable medium as of the filing date of the application, because the specification explicitly describes such an embodiment. The fact that claims 14 and 17 now do not include embodiments on intangible machine readable media that were within the scope of the application as originally filed does not mean that the amendments to claims 14 and 17 add new matter, because it is well established that claims do not need to include all subject matter disclosed in an application.<sup>6</sup> As a result, it would be improper to reject claims 14 or 17 under 35 U.S.C. § 112. Accordingly, no new matter is introduced by the amendments to those claims.

With respect to new claims 21-22, the applicants note that claims 21 and 22 are substantively identical to claims 6 and 7, and that support for claims 21 and 22 can be found in at least claims 6 and 7 as originally filed.

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<sup>5</sup> MPEP 2163.02 (“The fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed.”)

<sup>6</sup> E.g., *TIP Systems, LLC v. Phillips & Brooks/Gladwin Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008) (“Our precedent is replete with examples of subject matter that is included in the specification, but is not claimed.”).

In light of the foregoing, it is submitted that the present application is now in form for allowance. Accordingly, reconsideration and allowance of the claims, as amended herein, are earnestly solicited.

The Commissioner for Patents is hereby authorized to charge any deficiency or credit any overpayment of fees to Frost Brown Todd LLC Deposit Account No. 06-2226.

Respectfully submitted,  
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